

RESPONSE UNDER 37 C.F.R. § 1.116
U.S. Application No. 09/364,315
Attorney Docket No. A8491 / ST9-99-078

REMARKS

Pending claim 1-55 have been examined and are rejected. Specifically, claims 1-55 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Heath et al., U.S. Patent No. 5,553,239 (hereinafter "Heath") in view of Jones et al., U.S. Patent No. 6,282,561 (hereinafter "Jones"). Applicant traverses the claim rejections as follows.

Claims 1-30 and 45-47

Claim 1 recites the step of "for each request [to access a system], determining whether to allow access to the system using an access vector to identify an available access object" (*see also* claims 11 and 21). The Examiner acknowledges that Heath fails to teach or suggest these features of claim 1. However, the Examiner alleges that Jones makes up for the acknowledged deficiencies of Heath.

To the contrary, Jones does not even relate to allowing access to a system, much less allowing access by using an access vector or identifying an available access object. Consequently, Jones does not teach and cannot possibly suggest the step of "for each request, determining whether to allow access to the system using an access vector to identify an available access object", as recited in claim 1 (*see also* claims 11 and 21).

Jones does not relate to controlling access to a system, but instead, relates to a resource management mechanism for arbitrating resource requests and resource usage among independent real-time applications programs that run simultaneously on one or more machines (Jones: col. 4,

lines 9-13). Furthermore, Jones does not even enforce its own resource allocations (Jones: col. 8, lines 59-66).

In Jones, a resource is a limited hardware or software quantity that is provided by a machine, for example, CPU time, memory capacity, I/O bus bandwidth, network bandwidth, video frame buffers, sound cards, etc. (Jones: col. 4, lines 35-39). In Jones, an activity (*i.e.*, a running program), which is aware of its resource requirements, submits a request for resources in specified amounts to a resource planner (Jones: Abstract). The resource planner is a program that arbitrates access to the resources of a machine amongst different activities (Jones: col. 4, lines 63-64). The resource planner, which is knowledgeable about all local resources, tells an activity what amount of a resource, if any, is reserved for use by the activity (Jones: col. 4, lines 64-67).

The resource planner determines whether the activity should be granted the requested (resource) reservation by employing an internal policy module that implements a policy (Fig. 6A of Jones illustrates the policy) for arbitrating amongst requests to reserve resources (Jones: col. 1, lines 42-26). When denying a request, the resource planner may inform the activity of what quantity of the requested resources are currently available so that the activity may submit a modified request (Jones: Abstract).

The Examiner appears to assert that the request from a running program for specified amounts of resources needed by the running program to exhibit predictable behavior, as described in Jones, corresponds to the "request to access a system", recited in claim 1 (*see also*

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claims 11 and 21). However, it is respectfully submitted that the running program's request for specified amounts of resources is not a request access the system but rather to have resources allocated to it.

For example, in Jones, if a running program requires 10 seconds of CPU time, the program sends a request for 10 seconds of CPU time to the resource planner. The resource planner then determines whether or not the requested 10 seconds of CPU time is available, and if it is, the resource planner grants the program the 10 seconds of CPU time. This management of system resources, as described in Jones, does not teach or suggest using an access vector to identify an available access object in order to determine whether to allow access to a system (*see* claims 1, 11 and 21).

Furthermore, Jones does not teach or suggest identifying "an available access object", as recited in claim 1 (*see also* claims 11 and 21). In claim 1, an access vector identifies an available access object in order to determine whether to allow access to the system (*see also* claims 11 and 21). The Examiner alleges that the "resource set" of Jones, which is implemented as an object, discloses the recited available access object (Jones: col. 7, line 13 to col. 8, line 40). This resource set specifies what resources, and in what quantity, are required by the requesting activity (Jones: col. 7, lines 42-45).

Since the resource set of Jones is a component of each request for resources from an activity, it does not correspond to the recited available access object. In Jones, every resource request will include a resource set, such that there is no need to identify an available access object, as recited in claim 1 (*see also* claims 11 and 21). Indeed, Jones does not describe any

concept of availability/unavailability of a resource set. Instead, a resource set is merely a collection of data (*i.e.*, a number of pairs of resources and resource amounts) that is used by an activity to request resources (Jones: col. 7, lines 38-59).

Further still, the Examiner fails to provide any reasonable suggestion or motivation, from the references themselves or the knowledge generally available to one of ordinary skill in the art at the time of Applicant's invention, and without the use of impermissible hindsight, for combining Heath and Jones.

Heath describes a server architecture for connecting to a plurality of remote client computers, each seeking access to applications resident on the server (Heath: Abstract). Heath describes granting a connection to a client by using conventional username/password authentication and validating requests for access to an application program based upon a subscriber privilege level associated with the client (Heath: claims 1-3). Heath does not relate to managing the allocation of the resources of a machine.

Disparately, Jones describes a resource management mechanism for ensuring that real-time application programs running on a single machine or a set of machines exhibit predictable behavior (Jones: Abstract). To this end, a resource planner is provided in the computer system for planning allocation of the resources of a machine (Jones: col. 1, lines 37-50). The resource planner includes a policy module for implementing a policy for arbitrating amongst requests to reserve resources (*Id.*).

Thus, Heath and Jones are fundamentally different and the Examiner fails to provide a reasonable suggestion, absent the use of impermissible hindsight, for combining their teachings.

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For at least the above exemplary reasons, claims 1, 11 and 21 are not rendered obvious by a reasonable combination, if any, of Heat and Jones. Consequently, claims 2-10, 12-20, 22-30 and 45-47 are patentable over Heath and Jones, at least by virtue of their dependency.

Claims 31-44 and 48-49

Claims 31 and 38 are patentable over a reasonable combination, if any, of Heath and Jones based on a rationale similar to that set forth above for claims 1-30.

Furthermore, claim 31 recites, *inter alia*, "an access vector comprised of one or more access indicators" (*see also* claim 38). The Examiner alleges that Jones discloses an access vector by describing a resource planner and that the access vector is comprised of one or more access indicators by describing resource providers (*citing* Jones: col. 4, lines 35-47; and col. 9, line 63 to col. 10, line 34).

As noted above, the resource planner is a program that arbitrates access to the resources of a machine amongst different activities (Jones: col. 4, lines 63-64). In Jones, a resource refers to a limited hardware or software quantity (*e.g.*, CPU time) that is provided by a machine, and these resources are represented by objects, which are called "resource providers", that manage the resources (Jones: col. 4, lines 35-47). These resource providers support operations such as allocating amounts of the resource, performing resource accounting, and providing notifications (*Id.*).

The resource providers of Jones do not correspond to the recited access indicators because the resource planner, *i.e.*, the alleged access vector, is not comprised of one or more resource providers, *i.e.*, the alleged access indicators (*c.f.*, claims 31 and 38). While a resource planner 62 can communicate with the resource providers 50, 52, 54, 56 and 58, the resource planner 62 is distinct from (and not comprised of) the resource providers 50, 52, 54, 56 and 58 (Jones: Fig. 5; *see also* col. 9, lines 46-51, which describes the resource planner 62 making calls 72A, 72B, 72C, 72D and 72E to the resource providers 50, 52, 54, 56 and 58; and Fig. 3, which illustrates an activity 60 making queries 59A, 59B, 59C, 59D, 59E and 59F to the resource providers 50, 52, 54, 56 and 58). Thus, the resource planner is not an access vector comprised of access indicators.

For at least the above exemplary reasons, claims 31 and 38 are not rendered obvious by a reasonable combination, if any, of Heat and Jones. Consequently, claims 32-37, 39-44 and 48-49 are patentable over Heath and Jones, at least by virtue of their dependency.

Claims 50-55

Claims 50, 52 and 54 are patentable over a reasonable combination, if any, of Heath and Jones based on a rationale similar to that set forth above for claims 1-49.

Furthermore, claim 50 relates to determining access to a system that permits a predetermined number of simultaneous accesses (*see also* claims 52 and 54).

Heath does not relate to determining access to a system that permits a predetermined number of simultaneous accesses. Instead, in Heath, a process server identifies any currently running instances of a requested application and determines the maximum number of clients that may be logically connected to each instance (Heath: col. 4, lines 22-28). If a running application has a free slot, an application manager instructs the application to establish a logical connection to the client (Heath: col. 4, lines 28-34). Additionally, as necessary, the application manager will start new instances of the application to maintain a pool of available applications (Heath: col. 4, lines 34-37). Thus, Heath describes an application management scheme for avoiding the problems of increased application failures and decreased performance that are associated with overutilization of applications by multiple simultaneous users (Heath: col. 3, lines 11-34).

The application management scheme of Heath does not teach or suggest "determining access to a system that permits a predetermined number of simultaneous accesses" (*see* claims 50, 52 and 54). To the contrary, Heath merely describes establishing a connection between client computers and a server, in that a communication module of client 50 initiates contact with server 52 by sending an initiation message to an entry manager 54 over a physical telecommunication circuit 56 (Heath: col. 5, line 53 to col. 6, line 15). Entry manager 54 obtains from client 50, over telecommunication circuit 56, sufficient information to enable server 52 to establish a new connection 62 to client 50 (*Id.*).

Furthermore, claim 50 recites "for each request, determining whether to allow access to the system using an access vector comprised of one or more access indicators, wherein a number of available access indicators corresponds to a number of the simultaneous accesses permitted by

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the system at any given time" (*see also* claims 52 and 54). The Examiner alleges that Jones discloses these recited features (*citing* Jones: col. 9, line to col. 12, line 67).

To the contrary, Jones does not teach or suggest that "a number of available access indicators corresponds to a number of the simultaneous accesses permitted by the system at any given time" (*see* claims 50, 52 and 54). For example, there is no correspondence between the notifications provided by the resource providers described in Jones, *i.e.*, the alleged access indicators, and a number of simultaneous accesses permitted by the system at any given time.

For at least the above exemplary reasons, claims 50, 52 and 54 are not rendered obvious by a reasonable combination, if any, of Heat and Jones. Consequently, claims 51, 53 and 55 are patentable over Heath and Jones, at least by virtue of their dependency.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

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Respectfully submitted,



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